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EXAMINER

CHOW, JEFFREY J

ART UNIT	PAPER NUMBER
2628	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/511,730

Applicant(s)

IWATA ET AL.

Examiner

Jeffrey J. Chow

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claims 1 – 9 and 15 have been considered but are moot in view of the new ground(s) of rejection necessitated by applicant's amendment.

Objections to the drawings have been withdrawn due to applicant's amendments to Figures 1 – 3, 6, and 7.

Objection to the abstract has been withdrawn due to applicant's amendment to the abstract.

Objections to the claims have been withdrawn due to applicant's amendments to claims 4 and 10 – 14 and the correction of multiple spelling errors in various claims.

The 35 U.S.C. 112, first paragraph, rejections have been withdrawn due to applicant's amendments and arguments. The previous 35 U.S.C. 112, first paragraph, rejections stated "the interpolation between discontinuous portions is critical or essential to the practice of the invention, but not included in the claim(s) is not enabled by the disclosure." Applicant pointed out pages 19 and 20 for support in the specification of interpolating between discontinuous portions. The original specification recites:

"The second topographic map 7 produced in such the manner as was mentioned above, since it is produced by blocking into the irregular quadrilateral having the upside smaller than the bottom side, then if gathering such the blocked second topographic maps 7 in plural numbers thereof, there occurs a problem such as, shifting on the contour lines 6 between the topographic maps neighboring to each other, etc.

"For dissolving such the problem, the coordinate conversion is made upon the coordinate address on the irregular quadrilateral into the coordinate addresses on the equilateral quadrate, which maintaining the data and the number within that sector, through the known method, which is described in Japanese Patent Laying-Open No. 2000-118051 (2000), prior filed by the same applicant, thereby producing a third (3rd) topographic map 8 of equilateral quadrate, mathematically (step 5).

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“Those processes are performed with using the map producing system, in the similar manner to that shown in the prior-application, however explaining the method briefly, herein, Fig. 14(a) shows the second topographic map 7 at an arbitrary place, having the shape of an irregular quadrilateral, which is cut out from the projection data through the Gulls-Kruger drawing method, and a third topographic map 8 of the right-angled equilateral quadrate of the coordinate conversion program designates a process of pattern conversion, from the coordinate of the irregular quadrilateral shown in Fig. 14(a) into the right-angled equilateral quadrate” (pages 19 and 20).

Applicant further argues that the Federal Circuit states, “A patent is not a scientific treatise, but a document that presumes a readership skilled in the field of the invention” (pages 12 and 13). Applicant further states:

“The present specification provides sufficient disclosure to enable a skilled artisan to practice the invention. The Office Action indicates that the details of the interpolation have not been provided in the specification. However, the specification provides various equations and definition of the variables. See pages 19-20 of the specification. It is presumed that a skilled artisan in the field of computational topography is capable of resolving such equations algebraically or computationally. Accordingly, such a skilled artisan would not require a tutorial on performing such calculations. Further, as the court has stated, a skilled artisan is familiar with the literature in the field of the invention. Accordingly, such a person could easily obtain reference material should such a tutorial be necessary” (page 13).

From these statements given above, it is presumed that the limitation of “interpolating discontinuous data between each sector and between each of the small sectors” is well known in the art, a tutorial could be obtained, and that a Japanese application, (Patent Laying-Open No. 2001-118051) discloses this limitation, given the Patent Number is correct. Therefore, applicant has admitted prior art that teaches this limitation.

The 35 U.S.C. 112, second paragraph, rejections have not been fully withdrawn as they were not properly addressed. Further explanations are given below.

Drawings

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

Replacement Drawing Sheets

Drawing changes must be made by presenting replacement sheets which incorporate the desired changes and which comply with 37 CFR 1.84. An explanation of the changes made must be presented either in the drawing amendments section, or remarks, section of the amendment paper. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). A replacement sheet must include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of the amended drawing(s) must not be labeled as "amended." If the changes to the drawing figure(s) are not accepted by the examiner, applicant will be notified of any required corrective action in the next Office action. No further drawing submission will be required, unless applicant is notified.

Identifying indicia, if provided, should include the title of the invention, inventor's name, and application number, or docket number (if any) if an application number has not been assigned to the application. If this information is provided, it must be placed on the front of each sheet and within the top margin.

Annotated Drawing Sheets

A marked-up copy of any amended drawing figure, including annotations indicating the changes made, may be submitted or required by the examiner. The annotated drawing sheet(s) must be clearly labeled as "Annotated Sheet" and must be presented in the amendment or remarks section that explains the change(s) to the drawings.

Timing of Corrections

Applicant is required to submit acceptable corrected drawings within the time period set in the Office action. See 37 CFR 1.85(a). Failure to take corrective action within the set period will result in ABANDONMENT of the application.

If corrected drawings are required in a Notice of Allowability (PTOL-37), the new drawings MUST be filed within the THREE MONTH shortened statutory period set for reply in the "Notice of Allowability." Extensions of time may NOT be obtained under the provisions of 37 CFR 1.136 for filing the corrected drawings after the mailing of a Notice of Allowability.

Figure 14(a) should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). See page 20, lines 4 – 15 of the applicants specification.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1 – 15 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims that consist solely of data manipulation do not fall under statutory matter because no tangible result is produced. An invention must be a “useful process, machine, manufactured, or composition of matter, or any new and useful improvement thereof”. An invention must produce a concrete, useful, and tangible result. Displaying the result on a screen produces a tangible result.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 9 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 9 recites, “a fourth topographic map”, which is new matter because there is no support in the original specification for a fourth topographic map.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5, 9, and 15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, because it is confusing and indefinite. Claim 15 recites “reading elevation levels from digital data of the digital topographic map, so as to be aligned on a plane to be blocked”. It is difficult for one of ordinary skill in the art to ascertain what is being blocked and how is this something being blocked or the relevance of being blocked relates to the topographic map and/or a plane. Examiner requests the definition for “blocked” relating to the claimed language.

Claims 9 and 14 are rejected under 35 U.S.C 112, second paragraph, because “and/or” is indefinite. Examiner treats claim 9 as “by a map number or a map name” and claim 14 as “direction or magnitude”.

Claim 5 is rejected to because the preamble states a producing of a digital topographic map. It is uncertain if that the second topographical map is being produced in claim 1 or the third topographical map is being produced in claim 5 is the digital topographic map. The preamble of claims 1 – 5 recites, “A method for producing a digital topographic map.” There are up to four digital topographic maps being produced. It is uncertain which topographic map is the final output that is being produced intended by the preamble of the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Examiner will note that the Universe Transverse Mercator (UTM) projection is notoriously well known in the art. The UTM projection is based on the ideas of Carl Gauss (1777- 1855) called the Gauss projection (nte-serveur.univ-lyon1.fr). The UTM projection evolved from the Transverse Mercator projection, which was evolved from the Mercator projection. To explain the basic ideas of the UTM projection, looking at the figure from nte-serveur.univ-lyon1.fr, imagine a cylinder that encloses the world where the axis of the cylinder

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runs through the north and south pole of the world. Next, imagine a light source in the center of the world where the light that passes through the world gets mapped to the cylinder and then unfolding the cylinder (www.paddles.com). This creates a projection of the world on a flat paper. The UTM projection can also be accomplished by taking narrow strips of the spherical world and laying it out on paper (plantsci.sdstate.edu and Figure 9). These strip pieces have irregular quadrilaterals that are set at predetermined distances of usually 6 degrees apart (plantsci.sdstate.edu and Figure 9), which reads on the claimed basic map that is produced through UTM drawing method, into grid-like sectors at a predetermined distance. The strip can be viewed as a sector where the irregular quadrilaterals that are divided by 6 degrees of separation are small sectors (plantsci.sdstate.edu and Figure 9), which read on the claimed basic map being divided into smaller sectors. Since the strips used by the UTM projection is like peeling strips from an orange and flattening it produce discontinuous sectors, which read on the claimed small sectors that are produced while interpolating discontinuous data being in short between each sectors and within each of the sectors. Ultimately, the ideal situation to draw a flat map would be using the earlier method provided by www.paddles.com. Unfortunately, it is impossible to shine a light in the middle of the earth and map it out to a cylinder in outer space. Data are generally obtained from an aerial position within a certain distance in altitude or from the ground measuring elevation. But to map the world onto a flat surface, a translation of data obtained from a spherical surface to a flat surface without discontinuity must be made. That is what the basic UTM method provides.

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Claims 1 – 3, 6, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (page 1, line 16 – page 3, line 11, page 15, line 16 – page 16, line 26, page 17, lines 8 – 11, page 19, line 29 – page 20, line 15) in view of Yura (JP 06-067605) and Christensen (US 5,333,248).

Regarding independent claim 1, applicant's admitted prior art discloses:

“First of all, explanation will be made briefly, on a UTM drawing method, for producing a topographic map, to be a basis thereof, when producing the digital topographic map.

“As is shown in Fig. 1, lines connecting between the North Pole and the South Pole, orthogonally crossing the equator, on the earth 1 forming a sphere, are longitude lines 2, and those are latitude lines 3, orthogonally crossing those longitude lines.

“When dividing the earth by an angle 6° defined between the longitude lines 2 neighboring to each other, for example, 60 pieces of lines can be drawn onto the earth 1 having the angle of 360° , by one (1) round, and then the longitude can be defined by those longitude lines 2, in the order or sequence thereof.

“Also, the latitude can be defined, by assuming that the equator be 0° , while the North Pole and the South Pole 90° , respectively, and then dividing the angle defined there between into a predetermined angle.

“When projecting the sphere 1, which is divided by the longitude lines 2 and the latitude lines 3, onto a plane through the Gull's-Kruger drawing method, then it comes to be such, as shown in Fig. 2.

“Through projection of the sphere onto the plane, a sector, which is divided by the longitude lines 2 and the latitude lines 3, is brought into an irregular quadrilateral, being narrow in the width on the side of the North Pole or the South Pole, as is shown in Fig. 3; i.e., it is reduced about 0,999 on the upside, if assuming the bottom side thereof is one (1), for example.

“The Japanese maps, which are issued by the Geographical Survey Institute of Japan, they are produced through the UTM drawing method mentioned above, and they are scaled down 1/50,000 or 1/25,000, mainly.

“On those maps, there are described the contour lines, produced upon the basis of a large amount of measured data, which are obtained the measurement or survey, together with the rivers, the elevations, the railways, the roads and also the names of places, etc., in the details thereof.

“Also, **in recent years**, the measured data obtained through the measurement is digitalized, and there is also supplied a digital map, which is divided by colors upon the basis of the height from a benchmark (i.e., the elevation level), as is shown in Fig. 7” (pages 15 and 16 and emphasis added).

Applicant's admitted prior art discloses:

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“In case of obtaining a detailed map, such as, 50m or 25m, for example, shown in Fig. 3, from the map, **which is produced through the UTM drawing method mentioned above**, it is divided into sectors in a grid-like manner, at a distance 10m, etc., for example” (page 17 and emphasis added).

Applicant's admitted prior art discloses dividing the earth by an angle 6° defined between the longitude lines 2 neighboring to each other, 60 pieces of lines can be drawn onto the earth 1 having the angle of 360° and then the longitude can be defined by those longitude lines 2 (page 15 and Figure 2) and a detailed map, such as, 50m or 25m, is divided into sectors in a grid-like manner, at a distance 10m, etc. (page 17 and Figure 3), reads on the claimed dividing a basic map produced through a UTM drawing method, into grid-like sectors at a predetermined distance and the claimed further dividing each sector obtained to thereby produce small sectors.

Applicant's admitted prior art discloses:

“The second topographic map 7 produced in such the manner as was mentioned above, since it is produced by blocking into the irregular quadrilateral having the upside smaller than the bottom side, then if gathering such the blocked second topographic maps 7 in plural numbers thereof, there occurs a problem such as, shifting on the contour lines 6 between the topographic maps neighboring to each other, etc.

“**For dissolving such the problem**, the coordinate conversion is made upon the coordinate address on the irregular quadrilateral into the coordinate addresses on the equilateral quadrate, which maintaining the data and the number within that sector, **through the known method, which is described in Japanese Patent Laying-Open No. 2000-118051 (2000), prior filed by the same applicant**, thereby producing a third (3rd) topographic map 8 of equilateral quadrate, mathematically (step 5).

“Those processes are performed with using the map producing system, in the similar manner to that shown in the prior-application, however explaining the method briefly, herein, Fig. 14(a) shows the second topographic map 7 at an arbitrary place, having the shape of an irregular quadrilateral, which is cut out from the projection data through the Gull's-Kruger drawing method, and a third topographic map 8 of the right-angled equilateral quadrate of the coordinate conversion program designates a process of pattern conversion, from the coordinate of the irregular quadrilateral shown in Fig. 14(a) into the right-angled equilateral quadrate” (pages 19 and 20).

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Applicant's admitted prior art discloses a well known method that converts coordinates from irregular quadrilateral into equilateral quadrate (pages 19 and 20 and Figures 2 and 3), which reads on the claimed interpolating discontinuous data between each sector and between each of the small sectors. Applicant's admitted prior art did not expressly disclose connecting sectors with the same elevation and a smoothing process. Yura discloses a basic map of the earth that is produced through UTM, where the basic map of the earth is divided into grid-like sectors 502 where these grid-like sectors are divided into smaller segments as shown in reference character 505 (paragraphs 28 – 30 and Figure 5), which reads on the claimed dividing a basic map, produced through a UTM drawing method, into grid-like sectors at a predetermined distance. Yura discloses information are taken in by x , and (y, h) as the position coordinate where h is the height at the x and y coordinates (paragraph 8), which reads on the claimed producing digital data using an algorithm to relate x , y coordinates of the small sectors to elevation levels obtained through measurement. Yura discloses connections of points with the same altitude or the same height above the elevation level, just like contour lines on topography maps are connected by points that have the same altitude or the same height above the elevation level (Figure 1), which reads on the claimed interpolating discontinuous data between each sector and between each of the small sectors. It would have been obvious for one of ordinary skill in the art at the time of the invention to modify applicant's admitted prior art's system by relating height data to x , y coordinates and connecting data points with the same height with a line. One would be motivated to do so because this provides contour map where users can easily read elevation height and have a general understand what a desired land would look like in terms of elevation, longitude, and latitude. Yura did not explicitly disclose a smoothing process of the obtained data

points, but Yura does disclose a smooth topographical map (Figure 1). Christensen discloses a smooth process of topographical map by smoothing data forming a triangle into curve contour lines (Abstract). It would have been obvious for one of ordinary skill in the art at the time of the invention to modify applicant's admitted prior art's and Yura's system with Christensen's teachings of smoothing linear segments within a triangular mesh to produce a smooth topographic map, which gives topographical map a more realistic visual presentation instead of a blocky digital visual presentation.

Regarding dependent claim 2, Yura discloses a topography map being displayed as a single layer and a layer structure that is 3-D (Figure 1), which reads on the claimed data being displayed on a display means. It is inherent that Yura's system x , and (y, h) coordinates are map element data and it is also inherent that Yura's system store information in a computer readable medium as his invention relates to a computer that displays topographic maps.

Regarding multiple dependent claim 3, Christensen discloses a checking of a user specified minimum angle where a triangle is flagged if the triangle is unsuitable for smoothing and where the flagged triangle avoids contours intersecting, which reads on the claimed checking function is provided for checking on whether the mathematical process is conducted, appropriately or not, so that the lines of segments come cross with each other, when producing said first topographic map, by connecting said small sectors having the same elevation level, sequentially.

Regarding dependent claim 4, applicant's admitted prior art discloses the coordinate conversion is made upon the coordinate address on the irregular quadrilateral into the coordinate addresses on the equilateral quadrate, which maintaining the data and the number within that

sector, through the known method, which is described in Japanese Patent Laying-Open No. 2000-118051 (2000), prior filed by the same applicant, thereby producing a third (3rd) topographic map 8 of equilateral quadrate, mathematically (step 5) (pages 19 and 20 and Figures 2 and 3), which reads on the claimed irregular quadrilateral produced from the basic map and the map elements through said UTM drawing method is revised and interpolated to form a right-angled quadrilateral, thereby producing a third topographic map.

Regarding dependent claim 5, Yura discloses a topography map being displayed as a single layer and a layer structure that is 3-D (Figure 1), which reads on the claimed data being displayed on a display means. It is inherent that Yura's system x, and (y, h) coordinates are map element data and it is also inherent that Yura's system store information in a computer readable medium as his invention relates to a computer that displays topographic maps. Yura discloses the topography map being displayed into a single 2-D layer or a multiple 3-D layer (Figure 1), which reads on the claimed user map elements and said third topographic map are displayed on a said display means as a single or multi-layer structure or outputted on a paper as a topographic map.

Regarding independent claim 6, claim 6 is similar in scope as to claims 1, 4, and 5, thus the rejections for claims 1, 4, and 5 hereinabove is applicable to claim 6.

Regarding independent claim 15, claim 15 is similar in scope as to claims 1 and 4 – 6, thus the rejections for claims 1 and 4 – 6 hereinabove is applicable to claim 15. Yura discloses the information is stored as vector-like data where the information is represented by x, and (y, h) as the position coordinate where h is the height at the x and y coordinates (paragraph 8), which reads on the claimed vector data. Christensen discloses a smooth process of topographical map

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by smoothing data forming linear lines in a triangular mesh representation into curve contour lines (Abstract), which reads on the claimed mesh-like data. Christensen discloses non-intersecting line segments due to the connecting points with same elevation data (Figures 3B and 13), which reads on the claimed tolerance.

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (page 1, line 16 – page 3, line 11, page 15, line 16 – page 16, line 26, page 17, lines 8 – 11, page 19, line 29 – page 20, line 15) in view of Yura (JP 06-067605) and Christensen (US 5,333,248) and Yanker (5,249,263)

Regarding dependent claim 7, applicant's admitted prior art or Yura did not disclose the control of colors for coloring the topography map. Yanker discloses tools that of a slide bar that controls the selected color by the user (Figure 4). Yanker also discloses an image editor that pull up a color palette display 12 that overlays the image 14 on the screen and enables the image to be edited for color (column 3, lines 26 – 33). It would have been obvious for one of ordinary skill in the art to modify the combination of applicant's admitted prior art's and Yura's system with Yanker's teachings of color editing an image to have colors representing certain elevation levels on a topography map that is user customizable, which gives users a better visualization of how high or low a certain place is by using color mapping to a certain altitude (for example the images from www.myfolsom.com and earth.leeds.ac.uk) instead of finding the numerical number on a topography map and tracing the line back to the desired spot in determining the altitude.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (page 1, line 16 – page 3, line 11, page 15, line 16 – page 16, line 26, page 17, lines 8 – 11, page 19, line 29 – page 20, line 15) in view of Yura (JP 06-067605) and Christensen (US 5,333,248) and Yanker (5,249,263) and Hale (5,961,573).

Regarding dependent claim 8, applicant's admitted prior art or Yura did not disclose the control of colors for coloring the topography map. Yura also did not disclose a color legend. Yanker discloses tools that of a slide bar that controls the selected color by the user (Figure 4). Yanker also discloses an image editor that pull up a color palette display 12 that overlays the image 14 on the screen and enables the image to be edited for color (column 3, lines 26 – 33). Hale discloses a color legend for certain height range (Figure 4). It would have been obvious for one of ordinary skill in the art to modify the combination of applicant's admitted prior art's and Yura's system with Yanker's teachings of color editing an image and Hale's teaching of representing height of a topography map with color and providing a legend to have colors representing certain elevation levels on a topography map that is user customizable and having a legend that maps height to a certain color, which gives users a better visualization of how high or low a certain place is by using color mapping to a certain altitude and using a legend for a quick reference (for example the images from www.myfolsom.com and earth.leeds.ac.uk) instead of finding the numerical number on a topography map and tracing the line back to the desired spot in determining the altitude.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (page 1, line 16 – page 3, line 11, page 15, line 16 – page 16, line 26, page 17,

lines 8 – 11, page 19, line 29 – page 20, line 15) in view of Yura (JP 06-067605) and Christensen (US 5,333,248) and Yanker (5,249,263) and Hale (5,961,573) and Koyanagi (5,884,217).

Regarding multiple claim 9 in any of its combination, applicant's admitted prior art or Yura did not disclose a sub screen that displays the same content of the topography map that is displayed on the main screen. Yura did not explicitly disclose the maps being designated by a name and/or number. Koyanagi discloses a sub-screen that displays the same information type as the main screen (Figure 6). Koyanagi also discloses sectors of the map being represented by numbers (Figure 11). It would have been obvious for one of ordinary skill in the art at the time of the invention to modify the combination of applicant's admitted prior art and Yura's system with Koyanagi's teachings of displaying maps and storing maps with any combination of Hale's teachings and Yanker's teachings to display a main screen and a sub screen of the same map type, which gives users a zoomed in portion of the desired area and a different "angle" of viewing the topography map, and to designate maps by numbers, which is one of the efficient ways to name and store maps in a computer system for quick access and reference to the desired maps to be displayed and to be able to display the desired maps in a quick manner.

Claims 11 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (page 1, line 16 – page 3, line 11, page 15, line 16 – page 16, line 26, page 17, lines 8 – 11, page 19, line 29 – page 20, line 15) in view of Yura (JP 06-067605) and Christensen (US 5,333,248) and Arakawa et al. (JP 11-282344).

Regarding dependent claim 10, applicant's admitted prior art, Yura, or Christensen did not expressly disclose a cursor that display x, y coordinates. Arakawa discloses a cursor that

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displays a crosshair and the x, y, coordinates on the display. It would have been obvious for one of ordinary skill in the art at the time of the invention to modify the combination of applicant's admitted prior art, Yura's, and Christensen's system by incorporating a pointer with a crosshair and display x, y coordinates. One would be motivated to do so because this would give users the relative position of a desired location.

Claims 11 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (page 1, line 16 – page 3, line 11, page 15, line 16 – page 16, line 26, page 17, lines 8 – 11, page 19, line 29 – page 20, line 15) in view of Yura (JP 06-067605) and Christensen (US 5,333,248) and Kobayashi et al. (JP 2001-140257).

Regarding dependent claim 11 – 13, applicant's admitted prior art, Yura, or Christensen did not expressly disclose cross-sectional view of the third topographic map cut by a straight line. Kobayashi discloses cross sectional views of a third topographic cut by straight lines where the straight lines are defined by two points (paragraphs 60 – 64 and Figure 14). It would have been obvious for one of ordinary skill in the art at the time of the invention to modify the combination of applicant's admitted prior art's, Yura's, and Christensen's system by displaying a cross-sectional view of a topographic map through any two points from any geographical terrain. One would be motivated to do so because this would provide an easier view for users to examine 3-D data.

Claims 11 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over applicant's admitted prior art (page 1, line 16 – page 3, line 11, page 15, line 16 – page 16, line

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26, page 17, lines 8 – 11, page 19, line 29 – page 20, line 15) in view of Yura (JP 06-067605) and Christensen (US 5,333,248) and Surfer Software (“Surfer 8 – 3d contour maps and surface plots software”).

Regarding dependent claim 14, applicant’s admitted prior art, Yura, or Christensen did not expressly disclose showing arrows that indicate direction or magnitude of an inclination of land. Surfer Software discloses arrows that show magnitude and direction of the inclination of the land (pages 4 and 5). It would have been obvious for one of ordinary skill in the art at the time of the invention to modify the combination of applicant’s admitted prior art’s, Yura’s, and Christensen’s system by using vector maps to display the magnitude and direction of the inclination of a land. One would be motivated to do so because this would enhance the presentation of the desired map at a desired location.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey J. Chow whose telephone number is (571)-272-8078. The examiner can normally be reached on Monday - Friday 10:00AM - 5:00PM (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571)-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JJC


ULKA CHAUHAN
SUPERVISORY PATENT EXAMINER